

WHAT IS CLAIMED IS:

1. A method of inhibiting cationic amino acid transport comprising the step of administering to a human or a non-
5 human mammal an effective dose of an antisense oligonucleotide directed against CAT2 mRNA.

2. The method of claim 1, wherein said antisense
10 oligonucleotide has the nucleotide sequence:
GTAGGCTGAAACCCTGTCCTTGC (SEQ ID No. 2).

3. A pharmaceutical composition comprising an
antisense oligonucleotide directed against CAT2 mRNA and a
15 physiologically acceptable carrier.

4. A method of inhibiting the production of nitric
oxide in an individual in need of such treatment comprising the step
of administering to said individual an effective dose of the
20 pharmaceutical composition of claim 3.

5. A method of treating a pathophysiological state in an individual wherein said state is characterized by production of an undesirable level of nitric oxide, comprising the step of administering
5 to said individual an effective dose of the pharmaceutical composition of claim 3.

6. The method of claim 5, wherein said pathophysiological state is selected from the group consisting of
10 sepsis, neoplastic disease, autoimmune diseases, cachexia, cerebral malaria, cardiovascular disease, cerebrovascular disease and capillary leak syndrome.

7. The method of claim 6, wherein said autoimmune
15 disease is selected from the group consisting of systemic lupus erythematosus, rheumatoid arthritis and multiple sclerosis.

8. The method of claim 6 wherein said neoplastic disease is selected from the group consisting of breast cancer and
20 lung cancer.

9. A method of treating breast cancer in an individual in need of such treatment, comprising the step of administering to said individual an effective dose of the pharmaceutical composition of claim 3.

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10. A method of inhibiting the production of nitric oxide comprising the step of administering to a human or a non-human mammal an effective dose of an anti-CAT2 antibody.

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11. A method of treating a pathophysiological state in an animal or human wherein said state is characterized by production of an undesirable level of nitric oxide, comprising the step of administering to said human or animal an effective dose of an anti-CAT2 antibody.

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12. The method of claim 11, wherein said pathophysiological state is selected from the group consisting of sepsis, neoplastic disease, autoimmune diseases, cachexia, cerebral malaria, cardiovascular disease, cerebrovascular disease and capillary leak syndrome.

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13. The method of claim 12, wherein said autoimmune disease is selected from the group consisting of systemic lupus erythematosus, rheumatoid arthritis and multiple sclerosis.

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14. The method of claim 12 wherein said neoplastic disease is selected from the group consisting of breast cancer and lung cancer.

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15. A method of treating breast cancer in an individual in need of such treatment, comprising the step of administering to said individual an effective dose of anti-CAT antibody.

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16. An antisense oligonucleotide directed against CAT2 mRNA.

17. The antisense oligonucleotide of claim 16, wherein said antisense oligonucleotide has the nucleotide sequence:

20 GTAGGCTGAAACCCTGTCCTTGC (SEQ ID No. 2).

18. A transgenic animal, said animal lacking exon 2 of the CAT2 gene.

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19. A fibroblast cell line derived from the transgenic animal of claim 18.

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20. A method of screening for a compound that inhibits the transport of arginine, comprising the steps of:

treating a cell line lacking a functional CAT2 gene and a cell line having a functional CAT2 gene with a test compound;

measuring the inhibition of arginine uptake by said test compound in said cell line lacking a functional CAT2 gene and said cell line having a functional CAT2 gene, wherein a compound that inhibits the transport of arginine blocks the uptake of arginine from said cell line having a functional CAT2 gene but not from said cell line lacking a functional CAT2 gene.

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